

EJOT Baubefestigungen GmbH

Product sustainability fact sheet

Product information for the building certification scheme LEED v4® (Leadership in Energy and Environmental Design)

The intention of this document is to support project teams pursuing LEED v4 certification by providing an overview of how your products contribute to LEED v4 credits. Basis of this information is Leed v4 credit library (2014 -07)¹

Flat roof fastening system

General Information

Company name:	EJOT Baubefestigungen GmbH
Address:	In der Stockwiese 35, 57334 Bad Laasphe, Germany
Contact person:	Christian Dreher
Phone:	+49 2752 908 - 720
Email:	cdreher@ejot.de
Homepage:	www.ejot.de
Date:	22.12.2014

Product information

Product description

The flat roof fastening system is made up of a combination of screws with metal or plastic stress plates, or tube washers with a pre-assembled screw.

This declaration describes a hypothetical general flat roof fastening system with a total length of 160mm / 200mm / 240mm and it is thus valid for all of the following fastening combinations that may be used for mechanical fixing of flat roof structures against wind uplift according to the European Technical Approval ETA 07-0013.

If other than the total lengths listed above must be calculated, interpolation is possible.

Application

Flat roof fastening systems from EJOT Building Fasteners are used for mechanical fixing of vapor barriers, insulation and roofing membranes against dynamic wind uplift occurring on the substrates: trapezoidal sheet metal, concrete, lightweight and aerated concrete, wood and wooden materials.

Technical data

Name	Value	Unit
Description		
Screw diameter		4.8 – 8.0
Length spectrum		35 - 535
Washer diameter		40 - 50
Installation depth		20 - 65
Characteristic values of the tensile strength	0.86 – 2.61	

See /ETA 07-0013/ acc. to ETAG 006/

¹ http://www.usgbc.org/credits_8/2014

EJOT Baubefestigungen GmbH

Product sustainability fact sheet

Product declarations

Environmental product declaration

Number

EPD-EJO-20140130-IBD1-DE

Program operator

Institute Construction and Environment (IBU - Institut Bauen und Umwelt e.V.), Berlin, Germany

Author of the LCA

PE INTERNATIONAL AG, Leinfelden-Echterdingen, Germany

Materials and Resources (MR)

Summary

Materials and Resources credits encourage using sustainable building materials and reducing waste.

Building product disclosure and optimization - environmental product declarations

Intent of this credit

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts.

Product information for EJOT flat roof fastening systems within this credit:

Item	Value
Critically reviewed LCA acc. to ISO 14044	yes
Reviewer	Institute Construction and Environment (IBU - Institut Bauen und Umwelt e.V.), Berlin, Germany
Download link of the document/study	http://bau-umwelt.de/download/CY49a0afbfX149653f0993XY5d4/EPD_EJO_20140130_IBD1_DE.pdf
Product specific EPD (Type III, including external verification)	yes
EPD program operator	Institute Construction and Environment (IBU - Institut Bauen und Umwelt e.V.), Berlin, Germany; www.construction-environment.com
EPD program operator country	Germany
EPD number	EPD-EJO-20140130-IBD1-DE

Results of the LCA – ENVIRONMENTAL IMPACTS:

Declared life cycle stages (standard DIN EN 15978)	Declared unit: 1 average EJOT flat roof fastening system with a length of 200 mm	
	PRODUCT STAGE	END OF LIFE STAGE
	A1-A3	C4
GWP [kg CO ₂ -eq.]	1,06E-01	2,88E-4
ODP [kg CFC11-eq.]	2,58E-12	3,94E-15
AP [kg SO ₂ -eq.]	3,23E-04	1,83E-6
EP [kg PO ₄ -eq.]	3,15E-05	2,51E-7
POCP [kg Ethene-eq.]	3,60E-05	1,72E-7
ADPE [kg Sb eq.]	3,16E-06	1,08E-10
ADPF [MJ]	1,46E+00	3,79E-3

Product name: Flat roof fastening system

EJOT Baubefestigungen GmbH

Product sustainability fact sheet

Caption

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources

Results of the LCA – RESOURCE USE:

Declared life cycle stages (standard DIN EN 15978)	Declared unit: 1 average EJOT flat roof fastening system with a length of 200 mm	
	PRODUCT STAGE	END OF LIFE STAGE
	A1-A3	C4
PE total [MJ]	1,66E+00	-
PERE [MJ]	9,94E-02	-
PERM [MJ]	0,00E+00	-
PERT [MJ]	9,94E-02	3,26E-4
PENRE [MJ]	1,34E+00	-
PENRM [MJ]	2,17E-01	-
PENRT [MJ]	1,56E+00	3,96E-3
SM [kg]	1,85E-03	0,0E+0
RSF [MJ]	0,00E+00	0
NRSF [MJ]	0,00E+00	0
FW [m³]	2,32E-04	-1,2E-5

Caption

PE total = Total use of primary energy resources (=PERT+PENRT); PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Results of the LCA – OUTPUT FLOWS AND WASTE CATEGORIES:

Declared life cycle stages (standard DIN EN 15978)	Declared unit: 1 average EJOT flat roof fastening system with a length of 200 mm	
	PRODUCT STAGE	END OF LIFE STAGE
	A1-A3	C4
HWD [kg]	9,23E-05	1,78E-7
NHWD [kg]	1,32E-03	2,13E-2
RWD [kg]	3,84E-05	6,93E-8
CRU [kg]	-	0
MFR [kg]	-	0
MER [kg]	-	0
EEE [MJ]	-	0
EET [MJ]	-	0

Caption

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy per energy carrier; EEE = Exported energy, electric energy, EET = Exported energy, thermal energy

Since the raw materials for the production stage are the main contributors to the results of the LCA, there is a linear correlation between the weight of the raw materials (and thus the length of the fastening systems, since the density remains the same) and the impacts on the environment. To calculate the impacts of systems with other lengths, the following formula can be used:

$$P(x) = [P(x1) / x1] * x$$

P(x): indicator of the new system that shall be declared

P(x1): indicator of the declared system (e.g. global warming potential (GWP) of the flat roof fastening system with 200 mm)

Product name: Flat roof fastening system

EJOT Baubefestigungen GmbH

Product sustainability fact sheet

x: length of the new system that shall be calculated [mm] (e.g. 160 mm)
 x1: length of the declared system [mm] (here 200 mm)

Building product disclosure and optimization – sourcing of raw materials

Intent of this credit

To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts. To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner.

Product information for EJOT flat roof fastening systems within this credit:

Option 1	Description
Third-party verified corporate sustainability report (CSR)	no
Downloadlink to the report	-
Option 2	Description
Participation in an extended producer responsibility program	no
Postconsumer recycled content	9 % steel scrap (referred to the whole fastening system)
Preconsumer recycled content	-

Building product disclosure and optimization – material ingredients

Intent of this credit

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. To reward raw material manufacturers who produce products verified to have improved life-cycle impacts.

Product information for EJOT flat roof fastening systems within this credit:

Type of reporting/Item	Value/Comment
Health Product Declaration (HPD)	no
Material Safety Data Sheet (MSDS)	MSDS is available on request
GreenScreen v1.2 Benchmark	no
REACH compliancy	yes The formulation is checked according to the current REACH candidate list. The formulation does not contain any substances of very high concern. Certificates are available on request.

Disclaimer: The content of, and results shown in this report are based on data and information submitted by the client. Therefore, PE International AG makes no representation or warranty, express or implied, in regard of the correctness or completeness of the content of this document or the results shown.

Product name: Flat roof fastening system